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# Environmental Reporting in Pakistan's Oil and Gas Industry

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## ARTICLE INFO

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## ABSTRACT

This paper investigates to what extent Oil and Gas (O&G) companies in Pakistan report on environmental protection activities. Using a content analysis approach, environmental reporting (ER) in 13 companies' annual reports and websites are investigated over a five year period (2010-2014) following the guidelines issued by Securities Exchange Commission of Pakistan (SECP). Results reveal that the majority of the companies were found to have a low level of ER. However, since the introduction of SECP's voluntary guidelines, the level of ER increased during the sample study period. Companies that issued a stand-alone report were found to have higher levels of disclosure on their environmental protection practices. This study recommends that management engage with internal and external stakeholders with their environmental management practices. The results may also be beneficial to the government as they provide reporting guidance and stock exchange regulations regarding the obligatory dissemination of environment-related information.

## SARI PATI

*Makalah ini menyelidiki sejauh mana perusahaan-perusahaan minyak dan gas di Pakistan melaporkan kegiatan-kegiatan perlindungan lingkungan hidup. Dengan pendekatan analisis konten, pelaporan tentang lingkungan hidup (ER) dalam 13 laporan tahunan dan situs web perusahaan diselidiki selama periode lima tahun (2010-2014), mengikuti pedoman yang dikeluarkan oleh Komisi Bursa Sekuritas Pakistan (SECP). Hasil penelitian mengungkapkan bahwa mayoritas perusahaan memiliki tingkat ER yang rendah. Namun, sejak diperkenalkannya panduan sukarela SECP, tingkat ER meningkat selama periode penelitian sampel. Perusahaan yang mengeluarkan laporan yang independen memiliki tingkat pengungkapan yang lebih tinggi pada praktik perlindungan lingkungan hidup. Studi ini memandu manajemen untuk terlibat dengan para pemangku kepentingan internal dan eksternal pada praktik manajemen lingkungan hidup mereka. Hasilnya juga dapat bermanfaat bagi pemerintah untuk memberikan pedoman pelaporan dan peraturan bursa saham tentang kewajiban penyebaran informasi terkait lingkungan hidup.*

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## INTRODUCTION

Oil and Gas (O&G) are important resources and many developing countries are rich in these natural resources (Alazzani & Wan-Hussin, 2013; Bowrin, 2013). However, several accidents in the O&G industry have damaged the natural environment, wildlife and local human populations. For instance, the Bhopal disaster in 1984 killed more than 15,000 people and left thousands injured after deadly gases were released into the atmosphere as a result of an explosion in a defective tank. In 2010, an explosion at a BP drilling rig in the Gulf of Mexico killed eleven people, and leaving 17 injured, thus resulting in an extensive oil spill continuing for 86 days. In 2003, an oil spill in Pakistan was found to be a major cause of illness amongst thousands of people near the shores of Karachi, and this caused serious environmental problems (Janjua, Kasi, & Nawaz, 2006). Moreover, industries discharge poisonous waste chemicals directly into the streams, endangering lives and biodiversity (Ullah, Malik, & Qadir, 2009). As a result of such instances of environmental damage, inspections of the activities of oil and gas companies have been initiated (Peck and Sinding, 2003) to ensure that the environment is protected and natural resources are preserved. However, the reporting of environmental issues has also increased as a consequence of various influencing factors, including pressure from stakeholders (R. Gray, Kouhy, & Lavers, 1995; Sarkis, Gonzalez-Torre, & Adenso-Diaz, 2010). In the wake of such pressures, companies respond by providing voluntary environmental related information, and in particular, the O&G industry was found to be giving more environmental information due to the high possibility of negative impact on the environment by its operations (Kirat, 2015). There is now a trend to investigate the disclosure practices of companies. Despite the fact that ER has been intensively investigated in developing countries now (Belal, 2000; Chatterjee & Mir, 2008; Sumiani, Haslinda, & Lehman, 2007; D. Villiers & Barnard, 2000), there is limited evidence on the South Asian region. Kemp and Vinke (2012) assert that in South Asia the evidence on corporate social responsibility

practices is limited as the majority of the previous studies targeted Bangladesh and India while ignoring some geographically and economically important nations such as Pakistan. Although, a small number of studies have investigated reporting practices in Pakistan recently, (Kemp, L. J., and Vinke, 2012; Naeem & Welford, 2009; Nazir, 2010; Sharif & Rashid, 2014) none have investigated the ER practices of Pakistani companies in general and O&G companies in particular. On this note, our study explores the O&G industry in the South Asia region, namely, Pakistan. This particular industry was selected because it has a greater impact on the environment as compared to any other industry. Additionally, extractive industries might be embracing reporting practices to legitimise their practices since they have a greater impact on the environment, which makes them an interesting case to be explored.

This study contributes to the literature in the following ways: 1) it adds evidence to the literature from a developing country from a region (South Asia), where there is limited evidence on ER and hence complements the current focus, which is mainly on developed countries or some transitional economies such as Malaysia. 2) It extends the literature on disclosure practices in Pakistan, particularly environmental disclosure in an environmentally sensitive industry. 3) It captures the findings from various sources of ER that companies use for disclosure. 4) It assesses the impact of voluntary regulation issues by SECP (2013), with a focus on whether or not this has had an impact on environmental reporting practices.

The paper is organised as follows, the next section explores the relevant literature on ER, focusing on ER in developing countries. It will then outline research procedures, in relation to the GRI-index, sample, unit of analysis and categorisation, used to analyse the content of company reports and websites. It will then discuss the analysis of selected companies' ER practices, concluding that ER is still low and undergoing development in

the O&G industry of Pakistan, and suggesting that governmental and non-governmental organisations should increase pressure on companies to be more transparent.

#### **Theoretical Framework - Legitimacy theory**

Legitimacy theory has been used extensively to discuss companies' ER practices (Nik Nazli Nik Ahmad & Haraf, 2013; Cho & Patten, 2007; Clarkson, Li, Richardson, & Vasvari, 2008; Deegan, Rankin, & Tobin, 2002; Hughes, Anderson, & Golden, 2001; Iatridis, 2013; Reimann, Ehrigott, Kaufmann, & Carter, 2012). Previous studies have discussed the four strategies of Lindblom (1993) that corporations can use to legitimise their existence by voluntarily reporting environmental information. They are: 1) Educate and inform via reporting – the company change and reports the actual facts. 2) Reporting to change the perception of society – No changes in the organization but reporting on what it performs. 3) Reporting to control perceptions of society – more emphasis on the positive news while ignoring the negative news. 4) Reporting to change external perceptions - expectations are regarded as being unfair. Lindblom's strategies have been applied extensively to describe companies' reporting practices. For example, a study conducted by Cong and Freedman (2011) concludes that companies with good governance aim to project an image of being good corporate citizens, while their actual performance contradicts that image. In addition, they argue, companies focus on projecting a good image on the high-profile issues in order to obtain legitimacy. However, the image and the actions that companies use to influence perceptions are unreliable (Patten, 1992). Similarly, a study conducted by Chu (2013) in Chinese companies concludes that most of the reporting was found to be neutral or good news, which shows that companies use their annual reports as tools to legitimise their actions. In addition, this is achieved through manipulation technique which means changing the attention of the public. Furthermore, for example, de Villiers and van Staden, 2006 and Mahadeo, Oogarah-Hanuman and Soobaroyen

(2011) found that legitimising objectives may have been served by altering the type and volume of disclosure in order to avoid a legitimacy crisis. Furthermore, Momin and Parker (2013) found that seeking internal legitimacy appeared to be the main motivation for CSRR practice in MNCs subsidiaries in Bangladesh. On the other hand, in regards to the reason behind non-disclosure of environmental information, Antonites and de Villiers (2003) argue that the sensitivity of environmental information was considered as the most important reason for companies choosing not to report environmental related information. In addition, while choosing to report or not to report, companies will make every effort to change their image to obtain stakeholder confidence because sensitive information can have a negative impact on the business and therefore there is a reluctance.

In addition, Branco and Rodrigues (2008) argue that companies alter their reporting practices when they face environmental disasters, such as oil spills, which might bring them under public scrutiny. Moreover, companies in a country such as Pakistan may be conscious of negative publicity and in order to avoid such a crisis, they tend to give information about their environmental performance. Nevertheless, over recent years ER has developed as an important feature of corporate social responsibility. It is now customary for many companies, including companies in extractive industries, to exhibit their commitment to sustainable development (Peck and Sinding, 2003). The basic aim of ER was to display a corporation's commitment to the environment. However, 'the debate has shifted and now the main goal of ER has to be to demonstrate the company's environmental performance. It is this shift that needs to be tested in such a region (South Asia, Pakistan) where environmental problems are increasing rapidly.

#### **Literature Review**

Excessive emissions and environmental carelessness create risks for the health of individuals and the natural environment, also the negative

corporate image created by these issues can have a serious impact on companies' profit (see, for example, Adams, Muir, & Hoque, 2014; R. H. Gray, Owen, & Adams, 1996; Milne & Gray, 2012; Tilling & Tilt, 2010; Tilt, 2018). This is not claimed only by academics, but also by some well-known firms such as Deloitte (1993), ACCA (2013), KPMG (2015), who have issued reports that emphasise the growing public demand for increased environmental disclosures. Many corporations have moved business operations to South Asian countries to take advantage of less stringent laws and to have the benefit of an abundance of natural resources (Schuster, Lund-Thomsen, & Kazmi, 2016). Naeem and Welford (2009) conducted a comparative study of corporate social responsibility through an investigation of written policies of both local and multinational corporations operating in Pakistan and Bangladesh. They concluded that both countries face severe issues associated with the degradation of the environment and the exploitation and abuse of labour and the infringement of human rights. Likewise, a study conducted by Bhutto, Bazmi and Zahedi (2011) highlight that Pakistan is suffering from deforestation due to land developments and business expansion. In addition, the spillage of oil in the sea and gas explosions are the most prolific problems for these companies around the world, particularly in developing nations. As such major incidents were witnessed in the United Arab Emirates, India, Kuwait, Libya, Mexico and Pakistan. For instance, Meo et al., (2008) examined an incident of Greek oil tanker spillage along the shores of Karachi, Pakistan, the study concludes that the event impacted the lungs of the workers who were exposed to a crude oil spill. In addition, such events not only cause deaths but also impact companies' legitimacy.

Under such circumstances and in response to pressure from stakeholders for better reporting of environmental performance, companies have started to provide information regarding their environmental risks to avoid any legitimacy crisis. For example, Cho and Patten (2007) argue that

companies use disclosure as a tool to minimize the exposure to social and political pressures, and companies that damage the environment are more likely to make more environmental disclosures to gain legitimacy. In addition, the previous studies focusing on ER in developed economies have suggested that the main reason behind such reporting is to obtain legitimacy (Islam & Deegan, 2010; Mitchell & Quinn, 2005; Tilling & Tilt, 2010). In a similar vein, a few studies focusing on developing countries have also highlighted that the main reason behind company disclosure is to gain legitimacy (see Chatterjee & Mir, 2008; Chu, 2013; Sahay, 2004). However, Ahmad and Haraf, (2013) suggest that legitimacy theory is of limited benefit when explaining the nature and reason for disclosure in the Malaysian context. Whether or not this is true in the context of Pakistan still needs to be investigated, particularly in the O&G industry.

A number of studies have found that the level of ER in developing countries are low and it's in early stage - evidence from few developing countries in Asia is shown in Table 1.

Table 1 provides an overview of recent studies that investigated ER in various developing countries. The general trend that can be observed is that companies provided inadequate environmental information in their annual reports. The review of studies in the Bangladeshi context indicates a poor state of ER. Over time, both the oldest and the most recent (the year 2016) studies concluded that the level of reporting is low. The studies relating to Malaysia have been conducted relatively recently and the levels of ER are not significantly different from those of any other developing country. Note in particular that a few studies that the level of environmental disclosure in Malaysian companies is low. However, interestingly, studies in the Malaysian context also highlight the reasons behind the disclosure. For instance, companies use reporting as a tool to be seen as sustainable businesses and practice reporting as a tick-boxing exercise. However, Nazli Nik Ahmad and Sulaiman, (2004)

Table 1. A summary of previous studies conducted in developing countries

Author(s) Year	Country	Method & Industry	Industry	Conclusions
Nazli Nik Ahmad and Sulaiman, (2004)	Malaysia	Content Analysis	Industrial products and construction companies	The extent of environmental disclosure is very low in selected industries.
Dutta and Bose (2008)	Bangladesh	Content Analysis	Mixed listed companies	The web-based ER is still in its early stage as the level of environmental disclosure is very low.
Othman and Ameer, (2010)	Malaysia	Content Analysis	Palm oil companies	ER found to be a tick-boxing practice to hide the real pictures from the stakeholders.
Azizul Islam and Aminul Islam (2011)	Bangladesh	Content Analysis	Multinational O&Gs	Non-financial disclosures were associated with the public pressures as a result of the negative media coverage regarding the blowouts.
Djajadikerta and Trireksani, (2012)	Indonesia	Content Analysis	Mixed listed companies	ER is still in its infancy and companies have a lack of understanding about such disclosure. ER used as a tool to obtain societal recognition.
Qi et al., (2012)	China	Content Analysis	Mixed listed companies	Low level of disclosure, except larger companies that disclosed significantly more about the natural environment.
Eljayash et al., (2012)	Arab oil exporters	Content Analysis	Oil and Gas	The quantity and quality of ER in Arab oil countries is still considerably lower than in developed countries.
Ahmad and Haraf, (2013)	Malaysia	Content Analysis	Property development companies	The quantity and quality of environmental disclosure are very low and inconsistent and most the corporations give "soft disclosure".
Ullah et al., (2014)	Bangladesh	Content Analysis	Textile companies	Companies failed to address environmental issues in reports, and when they did, the level and quality were very poor.
Fernando, (2014)	Sri Lanka	Content Analysis	Mixed listed companies	The company modified the structure and format of reporting time to time, nevertheless, the CSR related expenditure seen as diminishing gradually.
Chaudhry, Mughal and Zafar (2014)	Pakistan	Interviews	Petroleum Companies	The firms are more focused on being seen as Green and they are doing this to portray a positive image.
Dissanayake, Tilt and Xydias-Lobo (2016)	Sri Lanka	Content Analysis	Mixed listed companies	The majority of companies focus on social aspects, despite poor environmental evidence in the country.
Odera, Scott and Gow (2016)	Nigeria	Content Analysis	Oil companies	The quantity and quality of CSRR are found to be low despite concerns raised about environmental degradation by the companies.



argues that there is limited support for legitimacy as a reason to disclose on environmental issues. Nevertheless, the government's intervention by introducing mandatory reporting laws perceived to be a potential solution (Ahmad and Haraf, 2013). Overall, previous literature on ER indicates that the concept of non-financial reporting is gaining importance in developing countries, even though it is still a voluntary practice. In terms of literature on environmental reporting, the investigation of ER has been as yet unexplored in Pakistan, with existing literature examining only corporate social responsibility (CSR) reporting in general. Kemp and Vinke, (2012) found a variation in reporting practices across industries; for example, the level of reporting is greater in commercial banks than in the aviation sector. Chaudhry, Mughal and Zafar (2014) investigated O&G companies of Pakistan and found that companies care about their reputation; hence they disclose to build their green image. Hence, there is a need to examine other industries' reporting practices. In addition, as extractive industries in developing nations have had a negative impact on the natural environment and the lives of human beings; stakeholders' demand for information has increased, and there is a need to comprehend O&G companies' initiatives to protect the environment. The study by Kemp and Vinke (2012) provides useful insights of a country to expand understanding on reporting practices of a developing country. Using the same country sample, our study contributes to the literature by focusing on the environmental aspects of corporate responsibility reporting in an environmentally sensitive industry. In addition, the study investigates longitudinal (2010-2014) rather than just relying on a single year. Therefore, the current study aims to investigate the current state of ER in the Oil and Gas industry in Pakistan.

## **METHODS**

Many previous studies (see (Dutta and Bose, 2007; Gray et al., 2001; Hackston and Milne, 1996; Hassan et al., 2013) have used content analysis technique to investigate reporting practices of companies. This

study also employs a content analysis approach to examine the extent of ER in annual reports and corporate websites. Content analysis is "a research technique for making replicable and valid inferences from data according to their context" (Krippendorff, 2012). This involves classifying the object under investigation (ER) into categories, on the basis of pre-defined criteria. This method has been used extensively to examine the non-financial reporting in developing countries due to its nature, which assists to observe the trend of companies reporting practices. Therefore, the content analysis as a research method deemed suitable for investigating the ER of O&G companies.

This method requires a few important steps to implement its process; (1) the selection of sources (2) the selection of a unit of analysis and (3) theme identification.

**Sources of information:** CR, stand-alone reports and company websites were selected as sources of ER information. As a result, 60 CR reports, 9 stand-alone reports and 12 corporate websites were investigated to determine O&G companies' ER reporting practices. The company reports were obtained from the company's official website, usually in the public relations and archive sections. Previous studies, when using the content analysis approach, relied on a single source (annual reports) of data collection; however, our sample includes different sources of reporting: corporate reports (CR) and the website, and longitudinal period in their current method. Wilmshurst and Frost, (2000) argue that companies use additional mediums of reporting, such as CR, stand-alone report and websites. A longitudinal approach was taken in order to analyse differences in reporting practices and the impact of pressures from stakeholders on companies' ER over a 5 year period between 2010 and 2014. This period was interesting in Pakistan's business context because SECP approved CSR Voluntary Guidelines in 2009 and a comprehensively updated version was launched in 2013 that also guides companies to report on environmental matters. Therefore, this period was

selected to assess the impact of voluntary guidelines on the volume of ER in O&G companies in Pakistan.

**Unit of Analysis:** The study focuses on two types of measures: a) to measure what is disclosed and b) to measure the level of ER based on the number of words disclosed on environmental related information. Previous studies on CSR reporting have experimented with different units, mainly, words, sentences and pages. There have been debates around what works best to investigate such a complex phenomenon because companies not only make narrative disclosures but also use images and infographics. The pages (devoted to ER in an annual report) were used as a unit of analysis, based on work of (Campbell, 2004; Deegan & Gordon, 1996; Gao, Heravi, & Xiao, 2005; Hassan & Kouhy, 2013) because a page provides a significant amount of detailed description than number of words and sentences. In addition, measurement based on number of sentences is incomplete because they do not consider pictorial reporting and the majority of the companies' reports do contain images of their environmental responsibility. Nevertheless, for corporate websites, we counted the number of words written on environmental issues to determine the companies reporting practices as number web pages does not always consist of pages.

**Themes and categories:** To identify the themes from the sources (annual reports and the website), this study followed the SECP's guidelines that issued voluntary guidelines namely, Companies (corporate social responsibility) General Order in 2009 and CSR Guidelines in 2013. The purpose of these guidelines was to encourage responsible business practices in Pakistan. In this regards, Javaid Lone, Ali, & Khan, (2016, p. 786) state that "these guidelines induce organizations to have a CSR policy endorsed by the board of directors that reflects their understanding and commitment toward CSR reporting". The guidelines outline key environmental issues that companies in the Pakistani context need to focus upon, such as energy conservation, environmental protection, water management and health and

safety. Such issues have increasing prominence in Pakistan due to their negative impact on the environment, species and human life. As such, it is important to assess the extent to which Pakistani O&G companies actively engaged with these issues.

After an appropriate comprehension of the content analysis approach by exploring past studies that utilised this method, we initiated the full content analysis process, which prompted a scan of each report issued by the selected firms. This was undertaken with great consideration in order to enable the cautious decision to be taken regarding whether a specific item is relevant to any of the environmental categories outlined by SECP. Consequently, this reduced the subjectivity in determining relevant items. In addition, the context of the text was thoroughly read to confirm the relevance of information to environmental aspects. After reading the text from the annual report the researcher assigned a label indicating the category considered in the study and counted for content analysis. If an indicator was available in the selected source, that item was considered as being 'disclosed' and given a value of 1. If no information was available, the item was considered as being 'non-disclosure' and given a value of 0. After analysing the content of a particular year was completed, the same procedures were employed for the other years in the sample. This procedure was repeated for every incidence of CSRR for each company – a thorough reading and then coding as per the SECP indicators. Each indicator and source were investigated carefully to reduce instances of error. In order to reduce instances of inconsistency and/or omission while undertaking content analysis, the double review was performed in order to ensure the reliability of the content analysis process (Krippendorff, 1980). Two researchers independently analysed the reporting mediums to test the instrument and identify discrepancies. This then allowed for the comparison of the results of two coders, the results of both coders were compared, and few minor discrepancies were noted, such as slight variation in the theme identified, however,



the majority of the results were identical and this indicates that the results are replicable.

The sample includes only Pakistan O&G companies, listed on the Karachi Stock Exchange, due to their high level of potential negative environmental impact. Three further criteria were used to select the sample group, following Alazzani & Wan-Hussin's (2013) study: 1) companies within O&G sector of Pakistan (total 13 O&G companies operate in Pakistan). 2) companies who have made a commitment to consider the environment (all companies are encouraged to include environment information by the SECP). 3) availability of their reports (only one firm (Sui Southern Gas Co Ltd ) was excluded due the missing annual reports and 12 firms were included in the sample (see Table 2). As a result, out of 13 companies in Pakistan's O&G industry, 12 were selected for analysis (see table 2), with one being excluded due to lack of availability of reports.

## RESULTS AND DISCUSSION

Oil and Gas (O&G) are important resources and many developing countries are rich in these natural resources (Alazzani and Wan-Hussin, 2013). Table 3 provides descriptive statistics of the volume of ER in each year. There has been a significant increase

in the volume of ER in the O&G sector of Pakistan since SECP announced (2009 and 2013) voluntary guidelines.

Figure 1 indicates that almost all the companies in the Pakistani O&G sector disclosed environmental and health and safety information. Similar results have been found by (Kilian & Hennigs, 2013), who argue that "companies in controversial industries are more active in CSR communication" (p 2). This is often attributed to a number of incidents in the O&G sector, forcing companies to change their CSRR practices. This is supported by Tilling & Tilt (2010) who found that after the incident the sample companies issued more environmental information in their annual reports than before the incidents. Their findings are all in line with Islam's and Islam's (2011) study. It can be argued that disclosing environmental information gives them environmental legitimacy because disclosure is often used as a tool to build a better corporate reputation (Branco & Rodrigues, 2007; Dragomir, 2010; Friedman & Miles, 2001; Kilian & Hennigs, 2013). Their study's findings are in line with this study in their assertion that large O&G companies disclosed more CSR information than their smaller counterparts.

Table 2. Oil and Gas companies in Pakistan

#	Name of Companies	Assets (Rs, in Million)	Business Nature
1	Attock Refinery (ATR)	64,634	Crude oil refining
2	Burshane LPG (BPL)	792	Storing and marketing of LPG
3	Byco Petroleum (BYCO)	43,908	Oil refinery
4	Mari Petroleum (MARI)	34,192	Oil and Gas production
5	National Refinery (NR)	55,676	Oil refinery
6	Oil & Gas Development (OGD)	414,011	Drilling, refining and retailing
7	Pakistan Oilfields (PO)	53,638	Oil exploration
8	Pakistan Petroleum (PP)	212,901	Exploration onshore and offshore
9	Pakistan Refinery (PR)	27,412	Production and retailing
10	Pakistan State Oil (PSO)	281,308	Distribution of petroleum products
11	Shell Pakistan (SP)	40,596	Retailing oil products
12	Sui Northern Gas (SNG)	211,777	The gas production and serving

Table 3. Descriptive analysis of ER of all selected companies

Stats	2010	2011	2012	2013	2014	% Change
Total number pages disclosed	220	262	265	301	316	-
Average pages disclosed	17	20	20	23	24	44%
Max pages disclosed	76	94	88	100	103	36%
Min pages disclosed	1	1	1	2	2	200%

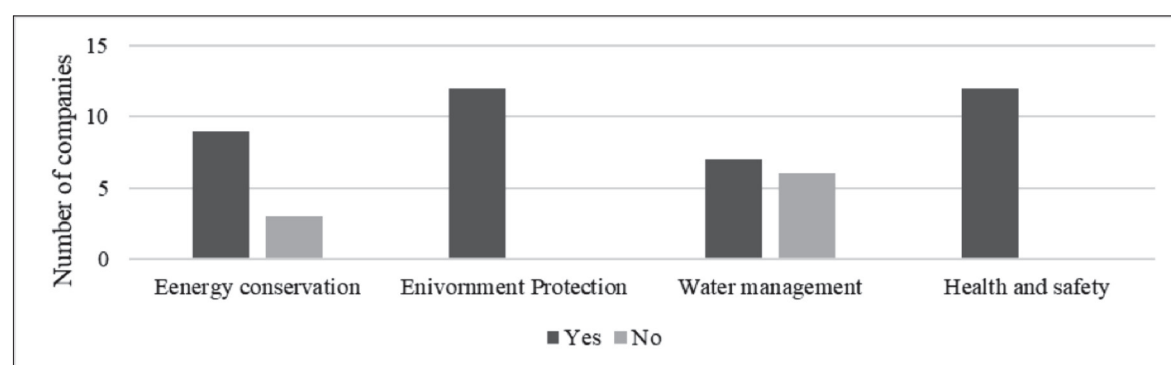


Figure 1. Number of companies disclosed and not disclosed environmental aspects disclosure

Table 4. Companies' environmental reporting quantity

Oil and Gas Companies	Number of pages in reports					Website (Words)
	2010	2011	2012	2013	2014	
Attock Petroleum	1.5	1.5	1.5	1.5	2	275
Attock Refinery	76	94	88	100	103	321
Byco Petroleum Pakistan Ltd	1	1	1	1.5	1.5	193
Mari Petroleum Company Limited	2	2	2	2.5	3.5	86
National Refinery	64	76	73	87	91	165
Oil and Gas Development Company	2.5	3	3	3	2.5	325
Pakistan Oilfields	4.5	5	5.5	6	6.5	242
Pakistan Petroleum	3	3	4	5	6	193
Pakistan State Oil	0.5	0.5	1.5	3	3.5	208
Sui Northern Gas Pipelines Limited	1.5	1.5	1.5	2	2	476
Sui Southern Gas Company	1	1	1.5	2	2	381
BHP Billiton (Pvt) Ltd.	30	34	37	46	48	103
Shell	32	39	45	41	44	847

### Quantity of Disclosure

Table 4 the findings show that the volume of general ER had increased during the period 2010-2014. All selected companies engaged in ER in various sources. The reporting trend rises gradually each

year, consistent with the finding of (Belal 2000; Imam 1999; Ullah et al, 2014). This trend may be as a result of increasing pressure from stakeholders on companies, as ER becomes an important trend within developing countries. It may also be related

to the government pressurising companies to be more transparent (Sari & Tjen, 2016). For example, the introduction of the Companies (corporate social responsibility) general order in 2009 and 2013 by the Securities and Exchange Commission Pakistan (SECP) may have encouraged companies to disclose information regarding “environmental protection” practices. It is also noted in Adefemi’s (2018) study that securities and exchange commission’s regulations had an impact on increased disclosure practices of Nigerian firms. According to previous studies, (Sari & Tjen, 2016) companies perform environmental disclosures as a legitimizing tool and poor environmental performance leads to a higher level of reporting on environmental aspects.

However, despite an increase in the trend, ER is underdeveloped in Pakistan’s O&G industry in comparison to developed countries. This is consistent with (Nik Nazli Nik Ahmad & Haraf, 2013; Djajadikerta & Trireksani, 2012; Dutta & Bose, 2008; Othman & Ameer, 2010; Qi et al., 2012; M. Ullah, Yakub, Hossain, Ullah, & Musharof, 2013), our result suggests that the level of ER remains low.

It can be expected that companies tend to disclose on their websites with the intent to engage with stakeholders. However, the level of reporting is at a low level, and lacking in detail. In the majority of instances, ER related information found to be in a specified section on the website - namely “Corporate social responsibility”, “Sustainability” and “Health and safety”.

This indicates that using a guideline such as GRI as well as stand-alone reports can enhance

companies’ level of reporting. In addition, these guidelines can also show companies, particularly in developing country, a way forward to make the better stakeholder engagement. The volume of reporting was counted from two sources namely, annual financial reports and stand-alone reports. When companies issue a stand-alone report, the volume of reporting increases significantly. In the case of oil and gas companies, 4 companies were found to be using reporting guidelines and issuing stand-alone reports as well. Studies suggest that oil and gas companies have a greater impact on the environment and society and for companies in the oil and gas sector maintaining legitimacy is essential (Alazzani & Wan-Hussin, 2013; Berthelot, Coulmont, & Thibault, 2013; Eljayash et al., 2012; Kirat, 2015). It can be argued that in order to gain stakeholder’s confidence, companies in this sector dedicate attention to their reporting strategies (Sari & Tjen, 2016). One of those strategies is to issue a stand-alone report to increase the volume of disclosure and other tactics involve using international guidelines, such as GRI, to provide a detailed set of information on their CSR performance. This is in line with findings of Alazzani and Wan-Hussin’s (2013) study, which found that companies made a reasonable effort to disclose in accordance with the GRI guidelines, as these guidelines provide a robust and comprehensive tool for reporting. In addition, they argue that the voluntary adoption of GRI by O&G firms enhances transparency, credibility and comparability. The companies in this environmentally sensitive sector use proactive strategies to gain organisational legitimacy because in the past a few environmental disasters have been tied directly to the oil and gas sector, which makes it

Table 5. Reporting guidelines and report type

Reporting Guidelines followed	Number of Companies
Yes	4
No	9
Report type	
Financial annual (combined reports)	10
Stand-alone report (separate report on ER)	3

more vulnerable to threats to its legitimacy. Hence, companies use various reporting practices to make a positive impact on their stakeholders.

### Discussion

This study concludes that despite the fact that it is not mandatory, most Pakistani O&G companies report some environmental information. The state of ER in Pakistan's O&G industry is not very different to that of any other developing countries, as the majority of companies provided low ER in their various sources of communication such as annual reports and websites. In addition, even though, the most common medium that is being used to present environmental related information was found to be CR, the level of reporting is higher in the stand-alone report and using guidelines significantly enhances companies' disclosure. For example, NRL provided a sustainability report for the first time in 2014. This may have been prompted by the company winning an annual award for the best report, organised by ACCA-WWF in Pakistan. Such initiatives encourage companies to improve reporting practices, particularly winning such competition provides the company with a recognition among various stakeholders among the society (Sari & Tjen, 2016).

Even though, the SECP notification (2009) states that "obligations under the law- (1) Every company shall provide descriptive as well as monetary disclosures of the Corporate Social Responsibility activities undertaken by it during each financial year (p. 1)" however the contents and statements about reported aspects of environmental activities tend to be general and narrative, and particularly amongst local companies there was no evidence of monetary disclosure about the environmental performance. In line with Cho, et al., (2007), the majority of companies (10) included only descriptive information, explaining what they do in relation to the adoption of policy, goals and objectives to protect environment, rather than providing meaningful information about what, how and why such activities were performed and any

associated expenses. This supports previous studies (see Fernando, 2014; Imam, 1999; Kemp, L. J., and Vinke, 2012) that found environmental disclosure to be general and descriptive in nature.

### MANAGERIAL IMPLICATIONS

We argue that Pakistan's O&G companies need to report on environmental performance voluntarily to inform various stakeholders. Company management is charged with engaging a wider array of stakeholders and this study shows that ER is a powerful tool for management to consider. Since, it is believed that ER not only provides stakeholders with the ability to make the right decisions but also helps companies to compare its environmental performance. The results of this study have potential implications for managers who may consider companies' ER as being an indication of companies' environmental performance. In addition, the results are useful as an evidence to convince companies' management to be transparent and engaged with stakeholders as it provides a better reputation and gains stakeholder's confidence. The results may also be used by the management for focusing on reporting guidelines and stock exchange regulations to disseminate environment-related information robustly. Du and Vieira (2012) suggest a solution to this question: Despite a wide variety of CSR initiatives and prevalence of cross-sector partnerships, oil companies need to abandon the "CSR as public relations" mentality, and instead work proactively in minimizing the negative externalities of their business operations, and take a long-term approach to CSR by investing substantially in renewable energies and going beyond simple financial donations in their cross-sector partnerships (p. 425).

### CONCLUSION

This study investigated ER in O&G industry of a developing country where environmental issues are increasing, namely, Pakistan. The findings of the current study suggest an increasing trend in CSRR among O&G firms in Pakistan; however, the level of ER remains low as is the case in many other

developing countries. The main disclosure item observed was “environmental protection” and “health and safety” and it can be argued that companies in O&G sector are more active in disseminating ER related information and this can be attributed to claim made by the legitimacy theory and a number of incidents in the O&G sector, forcing companies to change their CSRR practices. The study has many limitations. Focusing only on O&G companies, the results cannot be generalised to companies in other industries. In addition, it is

possible that errors or omissions of relevant information may have occurred when scoring the disclosure, despite taking all measures to avoid this. Future researchers may consider using a larger sample, including companies in other sectors, or drawing comparisons with companies in developed and other developing countries. Moreover, an in-depth study investigating the perceptions of managers dealing with environmental activities and its reporting would be useful. ■

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## REFERENCES

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- ACCA. (2013). *What do investors expect from non-financial reporting?* Retrieved from <http://www.accaglobal.com/content/dam/acca/global/PDF-technical/sustainability-reporting/tech-tp-wdir.pdf>
- Adams, C. a., Muir, S., & Hoque, Z. (2014). Measurement of sustainability performance in the public sector. *Sustainability Accounting, Management and Policy Journal*, 5(1), 46–67. <https://doi.org/10.1108/SAMPJ-04-2012-0018>
- Adefemi, F. (2018). Corporate governance disclosure in Nigeria : evidence from Nigeria listed companies . *International Research Journal of Business Studies*, 11(2), 67–80.
- Ahmad, N. N. N., & Haraf, A. S. A. (2013). Environmental disclosures of Malaysian property development companies: Towards legitimacy or accountability? *Social Responsibility Journal*, 9(2), 241–258. <https://doi.org/10.1108/SRJ-10-2011-0090>
- Ahmad, N. N. N., & Sulaiman, M. (2004). Environment disclosure in Malaysia annual reports: a legitimacy theory perspective. *International Journal of ...*, 14(1), 44–58. Retrieved from <http://www.emeraldinsight.com/doi/abs/10.1108/10569210480000173>
- Alazzani, A., & Wan-Hussin, W. N. (2013). Global Reporting Initiative’s environmental reporting: A study of oil and gas companies. *Ecological Indicators*, 32, 19–24. <https://doi.org/10.1016/j.ecolind.2013.02.019>
- Antonites, E., & De Villiers, C. J. (2003). Trends in South African corporate environmental reporting : A research note. *Meditari Accountancy Research*, 11(1), 1–10.
- Belal, A. A. R. (2000). Environmental reporting in developing countries: empirical evidence from Bangladesh. *Eco-Management and Auditing*, 7(3), 114–121. Retrieved from [http://onlinelibrary.wiley.com/doi/10.1002/1099-0925\(200009\)7:3%3C114::AID-EMA131%3E3.0.CO;2-E/abstract](http://onlinelibrary.wiley.com/doi/10.1002/1099-0925(200009)7:3%3C114::AID-EMA131%3E3.0.CO;2-E/abstract)
- Berthelot, S., Coulmont, M., & Thibault, K. (2013). Sustainability Content on Oil and Gas Company Websites. *Business and Management Research*, 2(1), 94–103. <https://doi.org/10.5430/bmr.v2n1p94>
- Bhutto, A., Bazmi, A., & Zahedi, G. (2011). Greener energy: Issues and challenges for Pakistan—Biomass energy prospective. *Renewable and Sustainable Energy ...*, 15(6), 3207–3219. Retrieved from <http://www.sciencedirect.com/science/article/pii/S1364032111001523>
- Bowrin, A. R. (2013). Corporate social and environmental reporting in the Caribbean. *Social Responsibility Journal*, 9(2), 259–280.
- Branco, M. C., & Rodrigues, L. L. (2007). Issues in corporate social and environmental reporting research : An overview. *Issues in Social and Environmental Accounting*, 1(1), 72–90.
- Branco, M. C., & Rodrigues, L. L. (2008). Social responsibility disclosure: A study of proxies for the public visibility of Portuguese banks. *The British Accounting Review*, 40(2), 161–181.
- Campbell, D. (2004). A longitudinal and cross-sectional analysis of environmental disclosure in UK companies—a research note. *The British Accounting Review*, 36(1), 107–117. <https://doi.org/10.1016/j.bar.2003.09.001>
- Chatterjee, B., & Mir, M. Z. (2008). The current status of environmental reporting by Indian companies. *Managerial Auditing Journal*, 23(6), 609–629. Retrieved from <http://www.emeraldinsight.com/doi/abs/10.1108/02686900810882138>

- Chaudhry, M., Mughal, S. L., & Zafar, F. (2014). Corporate Social Disclosure : A Case Study On Petroleum Industry Of Pakistan. *International Journal of Business and Marketing*, 2(1), 1–18.
- Cho, C. H., & Patten, D. M. (2007). The role of environmental disclosures as tools of legitimacy: A research note. *Accounting, Organizations and Society*, 32(7–8), 639–647. <https://doi.org/10.1016/j.aos.2006.09.009>
- Chu, C. I. (2013). The current status of greenhouse gas reporting by Chinese companies: A test of legitimacy theory. *Managerial Auditing Journal*, 28(2), 114–139. <https://doi.org/10.1108/02686901311284531>
- Clarkson, P. M., Li, Y., Richardson, G. D., & Vasvari, F. P. (2008). Revisiting the relation between environmental performance and environmental disclosure: An empirical analysis. *Accounting, Organizations and Society*, 33(4–5), 303–327. <https://doi.org/10.1016/j.aos.2007.05.003>
- Cong, Y., & Freedman, M. (2011). Corporate governance and environmental performance and disclosures. *Advances in Accounting*, 27(2), 223–232. <https://doi.org/10.1016/j.adiac.2011.05.005>
- de Villiers, C., & van Staden, C. J. (2006). Can less environmental disclosure have a legitimising effect? Evidence from Africa. *Accounting, Organizations and Society*, 31(8), 763–781. <https://doi.org/10.1016/j.aos.2006.03.001>
- Deegan, C., & Gordon, B. (1996). A Study of the Environmental Disclosure Practices of Australian Corporations. *Accounting and Business Research*, 26(3), 187–199. <https://doi.org/10.1080/00014788.1996.9729510>
- Deegan, C., Rankin, M., & Tobin, J. (2002). *An examination of the corporate social and environmental disclosures of BHP from 1983-1997: A test of legitimacy theory*. *Accounting, Auditing & Accountability Journal* (Vol. 15). <https://doi.org/10.1108/09513570210435861>
- Dissanayake, D., Tilt, C., & Xydias-Lobo, M. (2016). Sustainability reporting by publicly listed companies in Sri Lanka. *Journal of Cleaner Production*, 129, 169–182.
- Djajadikerta, H. G., & Trireksani, T. (2012). Corporate social and environmental disclosure by Indonesian listed companies on their corporate web sites. *Journal of Applied Accounting ...*, 13(1), 21–36.
- Dragomir, V. D. (2010). Environmentally sensitive disclosures and financial performance in a European setting. *Journal of Accounting & Organizational Change*, 6(3), 359–388.
- Du, S., & Vieira, E. T. (2012). Striving for Legitimacy Through Corporate Social Responsibility: Insights from Oil Companies. *Journal of Business Ethics*, 110(4), 413–427. <https://doi.org/10.1007/s10551-012-1490-4>
- Dutta, P., & Bose, S. (2007). Corporate Social and Environmental Reporting on corporate websites: a study on listed companies of Bangladesh. *The Cost and Management*. Retrieved from [http://papers.ssm.com/sol3/papers.cfm?abstract\\_id=1029576](http://papers.ssm.com/sol3/papers.cfm?abstract_id=1029576)
- Dutta, P., & Bose, S. (2008). Corporate environmental reporting on the internet in Bangladesh: an exploratory study. *International Review of Business Research Papers*, 4(3), 138–150. Retrieved from [http://papers.ssm.com/sol3/papers.cfm?abstract\\_id=1965079](http://papers.ssm.com/sol3/papers.cfm?abstract_id=1965079)
- Eljayash, K. M., James, K., & Kong, E. (2012). The Quantity and Quality of Environmental Disclosure in Annual Report of National Oil and Gas Companies in Middle East and North Africa. *International Journal of Economics and Finance*, 4(10), 201–217. <https://doi.org/10.5539/ijef.v4n10p201>
- Fernando, A. (2014). Corporate social responsibility disclosures in an emerging economy: case study of a tobacco company in Sri Lanka. *Journal for Global Business Advancement*, 7(3), 236–248. Retrieved from <http://inderscience.metapress.com/index/K20238K2342N37J4.pdf>
- Friedman, A. L., & Miles, S. (2001). Socially Responsible Investment and Corporate Social and Environmental Reporting in the UK: An Exploratory Study. *The British Accounting Review*, 33(4), 523–548. <https://doi.org/10.1006/bare.2001.0172>
- Gao, S. S., Heravi, S., & Xiao, J. Z. (2005). Determinants of corporate social and environmental reporting in Hong Kong: a research note. *Accounting Forum*, 29(2), 233–242.
- Gray, R., Javad, M., Power, D. M., & Sinclair, C. D. (2001). Social and environmental disclosure and corporate characteristics: a research note and extension. *Journal of Business Finance & Accounting*, 28(3–4), 327–356. Retrieved from <http://onlinelibrary.wiley.com/doi/10.1111/1468-5957.00376/abstract>
- Gray, R. H., Owen, D., & Adams, C. (1996). *Accounting and accountability: Changes and challenges in corporate social and environmental reporting*. London, UK: Prentice Hall. Retrieved from <http://books.google.com.my/books?id=KaJhQgAACAAJ>
- Gray, R., Kouhy, R., & Lavers, S. (1995). Methodological themes Constructing a research database of social and environmental reporting by UK companies, 8(2), 78–101.
- Hackston, D., & Milne, M. (1996). Some determinants of social and environmental disclosures in New Zealand companies. *Accounting, Auditing & Accountability Journal*, 9(1), 77–108. Retrieved from <http://www.emeraldinsight.com/doi/abs/10.1108/09513579610109987>
- Hassan, A., & Kouhy, R. (2013). Gas flaring in Nigeria: Analysis of changes in its consequent carbon emission and reporting. *Accounting Forum*, 37(2), 124–134. Retrieved from <http://www.sciencedirect.com/science/article/pii/S015598213000136>
- Hassan, A., Wright, A., & Struthers, J. (2013). Carbon Disclosure Project (CDP) scores and the level of disclosure on climate change related activities: an empirical investigation of the FTSE 100 companies. *International Journal of Sustainable*



- Economy*, 5(1), 36–52. Retrieved from <http://inderscience.metapress.com/index/C52R5M70K5258L2L.pdf>
- Hughes, S. B., Anderson, A., & Golden, S. (2001). Corporate environmental disclosures: are they useful in determining environmental performance? *Journal of Accounting and Public Policy*, 20(3), 217–240. [https://doi.org/10.1016/S0278-4254\(01\)00031-X](https://doi.org/10.1016/S0278-4254(01)00031-X)
- Iatridis, G. E. (2013). Environmental disclosure quality: Evidence on environmental performance, corporate governance and value relevance. *Emerging Markets Review*, 14, 55–75. <https://doi.org/10.1016/j.ememar.2012.11.003>
- Imam, S. (1999). Environmental reporting in Bangladesh. *Social and Environmental Accountability Journal*, 19(2), 12–14. <https://doi.org/10.1080/0969160X.1999.9651615>
- Islam, & Islam, M. A. A. (2011). Environmental incidents in a developing country and corporate environmental disclosures: A study of a multinational gas company. *Society and Business Review*, 6(3), 229–248. <https://doi.org/10.1108/1746568111170984>
- Islam, M. A., & Deegan, C. (2010). Media pressures and corporate disclosure of social responsibility performance information: A study of two global clothing and sports retail companies. *Accounting and Business Research*, 40(2), 131–148. <https://doi.org/10.1080/00014788.2010.9663388>
- Janjua, N., Kasi, P., & Nawaz, H. (2006). Acute health effects of the Tasman Spirit oil spill on residents of Karachi, Pakistan. *BMC Public Health*, 6(1), 84. Retrieved from <http://www.biomedcentral.com/1471-2458/6/84>
- Javaid Lone, E., Ali, A., & Khan, I. (2016). Corporate governance and corporate social responsibility disclosure: evidence from Pakistan. *Corporate Governance: The International Journal of Business in Society*, 16(5), 785–797. <https://doi.org/10.1108/CG-05-2016-0100>
- Kemp, L. J., and Vinke, J. (2012). CSR reporting: a review of the Pakistani aviation industry. *South Asian Journal of Global Business Research*, 1(2), 276–292.
- Kemp, L. J., & Vinke, J. (2012). CSR reporting: a review of the Pakistani aviation industry. *South Asian Journal of Global Business Research*, 1(2), 276–292. <https://doi.org/10.1108/20454451211252778>
- Kilian, T., & Hennigs, N. (2013). Corporate social responsibility and environmental reporting in controversial industries. *European Business Review*, 26(1), 79–101. <https://doi.org/10.1108/EBR-04-2013-0080>
- Kirat, M. (2015). Corporate social responsibility in the oil and gas industry in Qatar perceptions and practices. *Public Relations Review*, 41(4), 438–446. <https://doi.org/10.1016/j.pubrev.2015.07.001>
- KPMG. (2015). Currents of change: The KPMG Survey of Corporate Responsibility Reporting 2015, 1–48.
- Krippendorff, K. (2012). Content analysis: An introduction to its methodology. Retrieved from [https://scholar.google.co.uk/scholar?q=Krippendorff&btnG=&hl=en&as\\_sdt=0%2C5#0](https://scholar.google.co.uk/scholar?q=Krippendorff&btnG=&hl=en&as_sdt=0%2C5#0)
- Lindblom, C. K. (1993). The implications of organisational legitimacy for corporate social performance and disclosure. In *Paper presented at the Critical Perspectives on Accounting Conference*. New York, NY.
- Mahadeo, J. D., Oogarah-Hanuman, V., & Soobaroyen, T. (2011). Changes in social and environmental reporting practices in an emerging economy (2004–2007): Exploring the relevance of stakeholder and legitimacy theories. *Accounting Forum*, 35(3), 158–175.
- Meo, S., Al-Drees, A., & Meo, I. (2008). Lung function in subjects exposed to crude oil spill into sea water. *Marine Pollution Bulletin*, 56(1), 88–94. Retrieved from <http://www.sciencedirect.com/science/article/pii/S0025326X07003554>
- Milne, M. J., & Gray, R. (2012). W(h)ither Ecology? The Triple Bottom Line, the Global Reporting Initiative, and Corporate Sustainability Reporting. *Journal of Business Ethics*, 118(1), 13–29. <https://doi.org/10.1007/s10551-012-1543-8>
- Mitchell, C. G., & Quinn, N. W. (2005). Environmental reporting disclosure in South Africa: A comparative study of the expectations of selected groups of preparers and users. *Meditari Accountancy Research*, 13(2), 17–33.
- Momin, M. A., & Parker, L. D. (2013). Motivations for corporate social responsibility reporting by MNC subsidiaries in an emerging country: The case of Bangladesh. *British Accounting Review*, 45(3), 215–228. <https://doi.org/10.1016/j.bar.2013.06.007>
- Naeem, M. A., & Welford, R. (2009). A comparative study of corporate social responsibility in bangladesh and pakistan. *Corporate Social Responsibility and Environmental Management*, 16(2), 108–122. <https://doi.org/10.1002/csr.185>
- Nazir, M. (2010). Corporate Social Disclosure in Pakistan: A Case Study of Fertilizers Industry. *Journal of Commerce*, 2(1), 1–11. Retrieved from <http://www.ciitlahore.edu.pk/Papers/Abstracts/146-8588969319825962058.pdf>
- Odera, O., Scott, A., & Gow, J. (2016). An Examination of the Quality of Social and Environmental Disclosures by Nigerian Oil Companies. *Corporate Governance: The International Journal of Business in Society*, 16(2), 400–419.
- Othman, R., & Ameer, R. (2010). Environmental disclosures of palm oil plantation companies in Malaysia: a tool for stakeholder engagement. *Corporate Social Responsibility and Environmental Management*, 17(1), 52–62.
- Patten, D. M. (1992). Intra-industry environmental disclosures in response to the Alaskan oil spill: A note on legitimacy theory. *Accounting, Organizations and Society*, 17(5), 471–475. [https://doi.org/10.1016/0361-3682\(92\)90042-Q](https://doi.org/10.1016/0361-3682(92)90042-Q)
- Peck, P., & Sinding, K. (2003). Environmental and social disclosure and data richness in the mining industry. *Business Strategy and the Environment*, 12(3), 131–146.
- Qi, Y., Taplin, R., & Brown, a. M. (2012). Natural Environment Disclosures in the Annual Reports of Chinese Listed Entities. *Journal of Asian and African Studies*, 47(6), 587–604.

- Reimann, F., Ehr Gott, M., Kaufmann, L., & Carter, C. R. (2012). Local stakeholders and local legitimacy: MNEs' social strategies in emerging economies. *Journal of International Management*, 18(1), 1–17. <https://doi.org/10.1016/j.intman.2011.06.002>
- Sahay, A. (2004). Environmental reporting by Indian corporations. *Corporate Social Responsibility and Environmental Management*, 22, 12–22.
- Sari, D., & Tjen, C. (2016). Corporate Social Responsibility Disclosure , Environmental Performance , and Tax Aggressiveness. *International Research Journal of Business Studies*, 9(2), 93–104.
- Sarkis, J., Gonzalez-Torre, P., & Adenso-Diaz, B. (2010). Stakeholder pressure and the adoption of environmental practices: The mediating effect of training. *Journal of Operations Management*, 28(2), 163–176. Retrieved from <http://www.sciencedirect.com/science/article/pii/S0272696309000709>
- Schuster, T., Lund-Thomsen, P., & Kazmi, B. A. (2016). Corporate social responsibility (CSR) – insights from South Asia. *South Asian Journal of Global Business Research*, 5(2), SAJGBR-03-2016-0020. <https://doi.org/10.1108/SAJGBR-03-2016-0020>
- Sharif, M., & Rashid, K. (2014). Corporate governance and corporate social responsibility (CSR) reporting: an empirical evidence from commercial banks (CB) of Pakistan. *Quality & Quantity*, 48(5), 2501–2521. <https://doi.org/10.1007/s11135-013-9903-8>
- Sumiani, Y., Haslinda, Y., & Lehman, G. (2007). Environmental reporting in a developing country: a case study on status and implementation in Malaysia. *Journal of Cleaner Production*, 15(10), 895–901. <https://doi.org/10.1016/j.jclepro.2006.01.012>
- Tilling, M. V., & Tilt, C. a. (2010). The edge of legitimacy: Voluntary social and environmental reporting in Rothmans' 1956-1999 annual reports. *Accounting, Auditing & Accountability Journal*, 23(1), 55–81.
- Tilt, C. A. (2018). Making Social and Environmental Accounting Research Relevant in Developing Countries: A Matter of Context? *Social and Environmental Accountability Journal*, 38(2), 145–150. <https://doi.org/10.1080/0969160X.2018.1489296>
- Ullah, H., Hossain, M., & Yakub, K. M. (2014). Environmental Disclosure Practices in Annual Report of the Listed Textile Industries in Bangladesh. *Global Journal of Management And Business Research*, 14(1), 97–108.
- Ullah, M., Yakub, K., Hossain, M., Ullah, H., & Musharof, K. M. Y. (2013). Environmental Reporting Practices in Annual Report of Selected Listed Companies in Bangladesh. *Research Journal of Finance and Accounting*, 4(7), 45–58. Retrieved from <http://iiste.org/Journals/index.php/RJFA/article/view/6272>
- Ullah, Malik, R., & Qadir, A. (2009). Assessment of groundwater contamination in an industrial city, Sialkot, Pakistan. *African Journal of Environmental Science and Technology*, 3(12). Retrieved from <http://www.ajol.info/index.php/ajest/article/view/56273>
- Villiers, D., & Barnard, P. (2000). Environmental reporting in South Africa from 1994 to 1999: A research note. *Meditari Accountancy Research*, 8(1), 15–23. <https://doi.org/10.1108/10222529200000002>